

REMARKS

The present Amendment is in response to the Examiner's Office Action mailed July 13, 2005. Claims 15 and 23 are cancelled, claims 9, 14, 26, and 27 are amended, and new claims 32-36 have been added. Claims 1-14, 16-22, and 24-36 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

I. RESPONSE TO REJECTIONS

A. Rejection Under 35 U.S.C. §102(e)

The Examiner rejects claims 6-9, 12-15, 18, 21-22, 24-25 and 30-31 under 35 U.S.C. § 102(e) as being anticipated by *Kathman et al.* (United States Patent No. 6,496,621 B1). Because the Examiner has not established that *Kathman* teaches or suggests each and every element of the rejected claims, Applicants respectfully traverse this rejection in view of the following remarks.

"A claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference." *Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998). "The identical invention must be shown in as complete detail as is

contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989); *see* MPEP 2131.

Kathman teaches an apparatus which couples light to a fiber 14 from a light source 10. *See* Abstract; Figures 1, 3, and 4. In direct contrast, independent claim 6 recites the element "wherein said optical element conveys light from the optical medium to the detector, the optical element producing a light pattern on the detector that has substantially reduced light intensity near the center of the light pattern." (Emphasis added). Independent claim 9 recites the element "the optical element configured to create an annular illuminated region on the detector with a substantially non-illuminated center." (Emphasis added). Independent claim 14 recites the element "wherein the optical element is configured to produce an annular light pattern on the detector." (Emphasis added). Independent claim 24 recites the element "directing light from the light source to the detector such that light that is reflected by the detector is not substantially coupled back to the light source and the light from the light source produces a light pattern on the detector that has substantially reduced light intensity near a center of the light pattern." (Emphasis added).

The meaning of the term "optical fiber" as used by *Kathman* is not the same as a "detector." This distinction is set forth by *Kathman* throughout *Kathman's* specification and drawings. For example, *Kathman* states, "FIG. 1 illustrates a light source 10, here a VCSEL, a coupler 12 and a multimode fiber 14 integrated with a power monitor 16 are provided on a substrate 20." Col. 3, ll. 8-12. The fiber 14 of *Kathman* is an optical medium for carrying light and the Examiner has not established how the meaning of the term "fiber" is encompassed within the meaning of the term "detector" as set forth in claims 6, 9, 14, and 24. Rather, there is no detection accomplished by the fiber 14 in *Kathman*. Since the Examiner has not established that *Kathman* teaches the device being claimed in this application, Applicants respectfully request that the rejection under 35 U.S.C. § 102(b) be withdrawn. Claims 5-8, 10-13, 15-23, and 25- 31 depend from one of independent claims 6, 9, 14, and 24 and include each element of the independent claim from which they depend. As such, 5-8, 10-13, 15-23, and 25- 31 are allowable at least for the same reasons discussed above for independent claims 6, 9, 14, and 24.

The Examiner rejects claims 14 and 18-19 under 35 U.S.C. § 102(b) as being anticipated by *Kingsley et al.* (United States Patent No. 5,773,817). Because the Examiner has not established that *Kingsley* teaches or suggests each and every element of the rejected claims, Applicants respectfully traverse this rejection in view of the following remarks.

Kingsley discloses a pulse signal generator apparatus. Abstract. The pulser uses a laser for optically triggering a radial transmission line transformer (RTLTL) switch. Col. 2, l. 63-col. 3, l. 6; Figure 1. The circumferentially RTLTL switch receives a circular laser illumination from a laser that is directed to an active area about the outside of the switch via three lenses 58, 56, and 62. Figure 5A. *Kingsley* directs the light to the outer portions of the switch 12 where an active area of the switch is exposed.

In direct contrast, claim 14 recites the following:

14. A light transmission system comprising:
 - a light source;
 - a detector; and
 - an optical element positioned between the light source and the detector;
wherein the optical element is configured to receive uncollimated light from the light source and is further configured to direct more than half of the light that is transmitted from the light source onto the detector, and to direct less than half of the light that is reflected by the detector back to the light source, and wherein the optical element is configured to produce an annular light pattern on the detector.

(Emphasis added).

Applicants respectfully request that the rejection of claim 14 be withdrawn at least for the reason that the Examiner has not established that *Kingsley* teaches or suggests where "the optical element is configured to receive uncollimated light" in combination with each of the other elements of claim 14. Rather, as illustrated in Figure 5A, the beam of light received by optical element 62 is collimated by convergent lens 60. Claims 15-22 depend from claim 14 and thereby inherit each element of claim 14. Thus, Applicants also request that the rejection of claims 15-22 be withdrawn at least due to their dependence on claim 14.

The Examiner rejects claims 14, 16-17, and 26-27 under 35 U.S.C. § 102(b) as being anticipated by *Hibino et al.* (United States Patent No. 5,598,394). Because the Examiner has not established that *Hibino* teaches or suggests each and every element of the rejected claims, Applicants respectfully traverse this rejection in view of the following remarks.

Hibino teaches a laser diode 11, a beam splitter 13, and a photodiode 12. Figure 1. The beam splitter 13 reflects a part of the laser beam emitted from the laser diode 11 and concurrently transmits therethrough another part of the laser beam to the photodiode 12.

Regarding claim 14, the Examiner has not established that *Hibino* discloses where the "optical element is configured to produce an annular light pattern on the detector" in combination with the other elements of claim 14. Regarding claims 26 and 27, the Examiner has not established that *Hibino* discloses "providing light having an annular profile from the light source" in combination with the other elements of claims 26 and 27. Therefore, Applicants respectfully request that the rejection of claims 14, 26, and 27 be withdrawn at least for the reason that the Examiner has not established that *Hibino* teaches or suggests every element of claims 14, 26, and 27. Claims 16 and 17 are dependant on claim 14 and inherit every element of claim 14. Therefore, claims 16 and 17 are allowable for at least the same reasons as claim 14.

The Examiner rejects claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by *Kawasaki et al.* (United States Patent No. 4,021,099). Because the Examiner has not established that *Kawasaki* teaches or suggests each and every element of the rejected claims, Applicants respectfully traverse this rejection in view of the following remarks.

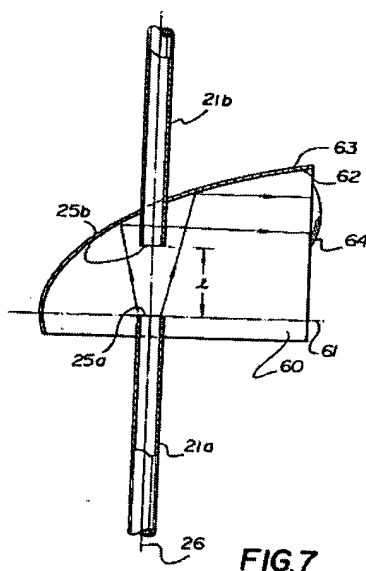
Figure 6 of *Kawasaki* illustrates a side view of an optical coupler. Figure 7 illustrates a cross-section view taken through the fiber axis 26. A fiber 21a is mounted within a block 60. Another fiber 21b is also mounted within the block 60 and its end is spaced so that most of the optical energy propagated along fiber 21a is launched into fiber 21b. However, a portion of the light reflected from a parabolic surface 62 is received by a lens 64 located on the beam path, which will focus the beam onto a detector or a third fiber. Col. 4, ll. 4-23.

Claim 1 recites the following:

1. An optical coupler comprising:
an optical element having a substantially flat side and a substantially convex side;
a detector spaced from the convex side of the optical element; and
an optical fiber positioned adjacent to the substantially flat side of the optical element wherein the substantially flat side of the optical element is oriented perpendicular to an optical axis associated with the optical coupler and the optical element is adapted to direct light delivered by the optical fiber to the spaced detector such that light that is reflected by the detector does not substantially couple back into the optical fiber.

(Emphasis added).

Kawasaki teaches where lens 64 focuses the beam onto a detector or a third fiber. *Kawasaki* does not, however, show the detector in Figure 7, so the Examiner has not set forth where *Kawasaki* has taught that the detector is "spaced from the convex side of the optical element" without relying on speculation. As can be seen from Figure 7 reproduced below, the detector is receiving the optical signal from lens 64. The side of the optical element 60 from which the detector would be spaced is not substantially convex. Thus, the Examiner has not established that *Kawasaki* teaches where a detector is "spaced from the convex side of the optical element." Further, the Examiner has not set forth where *Kawasaki* shows in Figure 7 an optical "positioned adjacent to the substantially flat side of the optical element." Rather, optical fiber 21a is mounted within block 60 in Figure 7 of *Kawasaki*.



As a result, Applicants respectfully request that the rejection of claim 1 be withdrawn at least for the reason the Examiner has not shown that *Kawasaki* teaches or suggests every element of claim 1. Claim 5 is dependent on claim 1 and includes every element of claim 1. Therefore, claim 5 is allowable for at least the same reasons as claim 1.

B. Rejection Under 35 U.S.C. § 103

The Examiner rejects claims 10-11 and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Kathman* in view of *Davidson* (U.S. Patent No. 4,357,104). Claims 10-11 depend from independent claim 9. Claim 20 depends from independent claim 14. As discussed above, claims 9 and 14 are allowable over *Kathman*. Dependent claims 10, 11, and 20 include all elements of the claims from which they depend. The Applicants request that the rejection of claims 10, 11, and 20 be withdrawn at least due to their dependence on claims 9 or 14.

The Examiner rejects claims 1-4 and 28-29 under 35 U.S.C. § 103(a) as being unpatentable over *Kingsley* in view of *Davidson*.

Kingsley is discussed above. To establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143. The Examiner has not established that *Kingsley* discloses "an optical fiber positioned adjacent to the flat side of [an] optical element." The Examiner also has not established that *Davidson* discloses "an optical fiber positioned adjacent to the flat side of [an] optical element." The optical element 62 of *Kingsley* receives light from lenses 58 and 60, which are referred to as a Galilean telescope 56. The Examiner has not set forth how lens 62 of *Kingsley* would function properly if it were to receive light from an adjacent optical fiber. Rather, the configuration of *Kingsley* set forth in Figure 5A utilizes lenses 58 and 60 to precondition the light before it is received by the lens 62. Thus, Applicants respectfully request that the rejection of claims 1-4 be withdrawn at least for the reason that the Examiner has not established that the combination of *Kingsley* and *Davidson* discloses or suggests every element of claim 1 required for a *prima facie* case of obviousness. Moreover, it appears to the Applicant that the proposed combination of *Kingsley* and *Davidson* would be non-functional.

Claims 28-29 are dependant on claim 27 and inherit every element of independent claim 27. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Therefore, claims 28 and 29 are nonobvious at least due to their dependence from an allowable independent claim.

New claims 32-36 have been added and are allowable at least do to their dependence from an allowable base claim.

CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 13 day of December, 2005.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "D.A. Jones", written in a cursive style.

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